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EFTA, ALEX B	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/587,710	BREHM, LUDWIG	
	Examiner	Art Unit	
	ALEX EFTA	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *2,3,5-18 and 29-58* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *2,3,5-18 and 29-58* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/8/2011, 6/17/2011*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Summary

This is a NON-FINAL action on the merits.

Claims 2, 3, 5-18, 29-58 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/8/2011 has been entered.

Response to Arguments

2. Applicant's arguments filed 9/8/2011 have been fully considered but they are not persuasive.

3. Applicant argues that even if one of ordinary skill were to consider combining Schmitz with Kaule, they would not be inspired to irradiate the adhesive layer after applying the transfer film to the adhesive layer. Thus one of ordinary skill would be guided away from making such a combination.

a. The Examiner respectfully disagrees. Kaule indicates that the UV curable adhesive is a delayed cure (Column 5, lines 15-50). One of ordinary skill in the art would appreciate that the time it takes to cure the adhesive would coincide

with the time it takes to transfer the magnetic layer, such that the transfer occurs prior to hardening of the adhesive.

4. The Examiner would like to note that the arguments regarding the various design options of Schmitz, merely different options explained in detail. The option provided in column 4, lines 15-51 is just as applicable to the claims. Since the semitransparent layer is a screened layer, it will come off with magnetic layer during selective activation of the adhesive, and still retain the function of the invention disclosed therein.

5. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 38, 40, 51 and 53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claims 38 and 51 require that the adhesive layer is exposed from the side of the transfer film through the transfer film. However, Claims 32 and 45 state that the exposure occurs prior to placing the transfer film and carrier film together. Therefore, the adhesive cannot be exposed prior to placing these films together, through the transfer film.

9. Claims 40 and 53 require that the adhesion force in relation to the magnetic layer is lower than the adhesion force between the magnetic layer and the carrier film, In the non-hardened condition. The Examiner believes that the adheison force should be higher, to be consistent with claims 32 and 45.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 58, 2, 12- 15, 18 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) and BRADBURY-HARRIS et al. (US 6,395,120).

12. **With respect to claim 58,** SCHMITZ et al. discloses a process for the production of a security element (Abstract) comprising: engaging a first side of a first film body with a second side of a second film body, the second film body forming a transfer film, the second side of the second film body having a magnetic layer, the engagement of the first film body with the second film body having the adhesive layer in contact with the magnetic layer and the first film body, and implicitly irradiating the engages first and second film bodies, whereby the adhesive layer is cured/hardened to thereby attach to the first portion of the magnetic layer to the hardened adhesive layer; and separating

the first film body from the second film body, whereby the hardened adhesive layer and the attached first portion of the magnetic layer remain attached to the first film body, and the second portion of the magnetic layer remains attached to the separated second film body (Column 4, lines 9-50).

13. SCHMITZ et al. does not specifically state that the adhesive layer is provided on the first film body and is a cross-linkable type. However, KAULE et al. discloses that the adhesive can either be applied to the first film body or the transfer film (Column 5, lines 15-47). Accordingly, KAULE et al. discloses that placing the adhesive on the first film body or the second film body are obvious variant methods, as such, one having ordinary skill in the art, at the time of the invention, would have considered placing the adhesive on the first film body of SCHMITZ et al.

14. Additionally, KAULE et al. discloses using radiation curable cross-linkable adhesive (Abstract) whereby the bond is irreversible (Column 2, lines 59 -63). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use cross-linkable adhesives to bond the magnetic layer of SCHMITZ et al. as taught by KAULE et al. so as to form an irreversible bond.

15. SCHMITZ et al. does not specifically state that the adhesive is in pattern form. However, BRADBURY-HARRIS et al. discloses that the adhesive is supplied to the substrate in pattern form and the transfer is transferred to the adhesive in the pattern of the adhesive (Columns 8 and 7, lines 1-15 and 50-57, respectively). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to provide the adhesive of SCHMITZ et al. in the form of a pattern as taught by

BRADBURY-HARRIS et al. so as to selectively transfer the magnetic layer thereto while also reducing the amount of adhesive used.

16. Furthermore, by applying the adhesive in pattern form, according to BRADBURY-HARRIS et al., and having the magnetic layer structured over the entirety of the transfer film, according to SCHMITZ et al., there are implicitly magnetic portion in direct contact with the adhesive layer and second portions of the magnetic layer beyond the adhesive pattern.

17. **With respect to claim 2,** BRADBURY-HARRIS et al. discloses that the adhesive is applied to the substrate by printing (Column 3, lines 33-38).

18. **With respect to claim 12**, SCHMITZ et al. does not specifically state that the adhesive is irradiated through the carrier. However, SCHMITZ et al. discloses that the carrier is a transparent plastic foil (Column 4, lines 24 through 30) and that the magnetic layer is provided additionally with gaps in the form of characters, patterns or the like and the carrier is translucent or transparent. Furthermore, the adhesive is radiation-curable (Column 4, lines 34 through 38). Therefore, one having ordinary skill in the art, at the time of the invention, would appreciate that the adhesive may be irradiated through the carrier.

19. **With respect to claim 13,** SCHMITZ et al. does not specifically state that the adhesive is exposed through the document. However, KAULE et al. discloses that adhesives can also use blue light-curing reaction adhesives. This method variant is shown in Fig. 5. Paper web is provided with the blue light-curing reaction adhesive in the printing unit (Column 5, lines 48 through 55). The transfer material and the paper

web are brought into contact and irradiated with blue light. The reaction adhesive thereby cures within seconds since the paper is permeable to blue light. The transfer foil can then be removed from the hologram-paper compound in the usual way (Column 5, lines 56 through 60). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use blue light-curing adhesive to bond the security element to the document of SCHMITZ et al. as taught by KAULE et al. so as to irreversibly attach the security element from the document. Subsequently, one having ordinary skill in the art, at the time of the invention, would have considered radiating through the document to cure the adhesive.

20. **With respect to claim 14,** SCHMITZ et al. does not specifically state that the adhesive force between the magnetic layer and the carrier is higher than the non-hardened adhesive and the magnetic layer. However, SCHMITZ et al. cures the adhesive to transfer the magnetic layer. Therefore, absent any evidence to the contrary, the adhesive force between the non-cured adhesive is implicitly lower than the adhesive force between the carrier and the magnetic layer.

21. **With respect to claim 15,** SCHMITZ et al. discloses that the adhesive is a radiation-curable adhesive (Column 4, lines 34 through 38). SCHMITZ et al. does not specifically state that the adhesive is a non-conducting adhesive. However, absent any evidence to the contrary, the adhesive of SCHMITZ et al. is implicitly non-conductive as there is no evidence from SCHMITZ et al. to indicate it is so.

22. **With respect to claim 18**, SCHMITZ et al. discloses that the carrier is provided with a separation layer between the carrier and magnetic layer (Column 4, lines 24 through 37).

23. **With respect to claim 29,** SCHMITZ et al. discloses that the transfer film may consist of only a carrier film, a release layer and a magnetic layer (Columns 4 and 9, lines 22 through 40 and 1 through 10, respectively).

24. **With respect to claim 30,** SCHMITZ et al. discloses that the transfer film may consist of only a carrier film and a magnetic layer (Columns 4 and 9, lines 22 through 40 and 1 through 10, respectively).

25. **With respect to claim 31,** SCHMITZ et al. discloses that if the label-like security elements are to be transferred in certain places with the aid of such a transfer foil, the transfer foil can be provided with the security element layer structure all over and the latter detached and transferred from the all-over coating only in the desired areas, e.g. by selective activation of the adhesive. Alternatively, the carrier material can already be provided with the desired single elements in spaced-apart areas (Column 4, lines 43 through 51).

26. Accordingly, the adhesive force between the magnetic layer and the carrier film implicitly enables the release of at least a portion of the magnetic layer from the carrier film.

27. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) and

BRADBURY-HARRIS et al. (US 6,395,120) as applied to claims 58, 2, 12- 15, 18 and 29-31 above, and further in view of YADAV (US 20040256986).

28. **With respect to claim 7**, modified SCHMITZ et al. discloses that the magnetic layer can either be printed (e.g. by screen printing) or applied by coating methods (Column 8, lines 33 through 38). Modified SCHMITZ et al. does not specifically state that the magnetic layer is a layer of magnetic particles. However, YADAV discloses that nanopigments provide color and magnetic performance and can be applied to an article of ceramic, adhesive, paper, fiber, ink or polymeric art. Such colored magnetic nanopigments may be used to create superior security documents, bar codes, inventory tracking technologies, theft prevention tolls, quality assurance, and safety products appealing to customers (Paragraph [0152]. The powders are nanoscale (Paragraph [0150]). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use nanoscale magnetic particles for the magnetic layer of SCHMITZ et al. as taught by YADAV so as to provide superior security features for documents of value.

29. **With respect to claim 8**, modified SCHMITZ et al. discloses that the magnetic layer may be coated by screen printing onto the carrier (Column 8, lines 33 through 38) and implicitly from a solution. YADAV discloses that the magnetic particles are nanoscale. Therefore, one having ordinary skill in the art, at the time of the invention, would appreciate that the coating of SCHMITZ et al. may contain nanoscale magnetic particles as taught by YADAV so as to provide superior security features for documents of value.

30. **With respect to claim 9**, modified SCHMITZ et al. discloses that the magnetic layer can either be printed (e.g. by screen printing) or applied by coating methods (Column 8, lines 33 through 38). Modified SCHMITZ et al. does not specifically state that the magnetic layer is applied by sputtering. However, YADAV discloses that the film can be coated by spin coating, dip coating, spray coating, ion beam coating, plasma coating, and sputtering (Paragraph [0120]). Therefore, one having ordinary skill in the art, at the time of the invention, would appreciate coating the carrier with the magnetic layer of SCHMITZ et al. by sputtering so as to apply the magnetic layer entirely over the carrier.

31. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) and BRADBURY-HARRIS et al. (US 6,395,120) as applied to claims 58, 2, 12- 15, 18 and 29-31 above, and further in view of POWER et al. (EP 0953937).

32. **With respect to claims 10 and 11**, modified SCHMITZ et al. discloses that a magnetic layer is printed or coated onto the carrier. Modified SCHMITZ et al. does not specifically state that the magnetic material is an amorphous metal glass. However, POWER et al. discloses a security element comprising a magnetic layer and an embossed layer so as to avoid counterfeiting of value documents (Abstract (Item 57)). The soft-magnetic amorphous metal glass thin film coating may be deposited by sputtering to achieve the desired magnetic properties (Paragraph [0053]). The soft-magnetic layer consists essentially of an alloy containing cobalt, iron, silicon and boron

(Paragraph [0042]). A soft-magnetic material only shows magnetic properties when exposed to a magnetic field while hard-magnetic materials show permanent magnetic properties (Paragraph [0017]). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use soft-magnetic materials for the security element of SCHMITZ et al. as taught by POWER et al. so as to provide greater security for documents of value. Additionally, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to sputter the layer of magnetic material of SCHMITZ et al. as taught by POWER et al. so as to provide the desired magnetic properties thereby allowing for tailoring of the security feature and providing for greater security of the document of value.

33. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) and BRADBURY-HARRIS et al. (US 6,395,120) as applied to claims 58, 2, 12- 15, 18 above, and further in view of HARRIS et al. (WO 99/65699).

34. **With respect to claims 16 and 17**, modified SCHMITZ et al. discloses that the magnetic layer can be provided in the form of characters, patterns or the like (Column 5, lines 15 through 25) and that the security element, containing the magnetic pattern, are secured to the document by a radiation-curable adhesive (Column 4, lines 30 through 38). KAULE et al. discloses that the bank paper is coated locally with a special reaction adhesive in a printing unit. The adhesive can be treated like an ink before activation

(Column 5, lines 15 through 20). Modified SCHMITZ et al. does not specifically state that the adhesive can be applied to the document by intaglio or flexographic printing. However, HARRIS et al. discloses a method of providing an optically variable effect generating structure and an image on a substrate (Page 1, lines 1 through 5). Optically variable effect generating structures such as diffraction gratings and holograms are frequently used both for decorative and security purposes. In particular, such structures are used on security documents such as identification cards, banknotes and the like to enable such substrates to be authenticated (Page 1, lines 6 through 15). The first state in the process involves the depositing of an adhesive. The adhesive must be printable, preferable to form high resolution images. It is possible to use UV cationic curing resins. The quantity of adhesive applied is also important. Too little and incomplete coverable may occur. Too much and the adhesive will pass between the first layer of tin particles and bind additional layers, resulting in unnecessary material usage (Page 4, lines 15 through 35). The adhesive may be printed using conventional printing techniques such as flexography and intaglio printing (Page 5, lines 9 through 15). Therefore, it would have been obvious to use intaglio or flexographic printing to apply the adhesive to the document of modified SCHMITZ et al. as taught by HARRIS et al. so as to provide high resolution images and to prevent unnecessary material usage.

35. Claims 32, 3, 5, 6, 39-41, 44, 45, 52-54 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et

al. (US 5,820,971) and UCHIYAMA et al. (JP 63-030843), or in the alternative to UCHIYAMA et al., IIJIMA (US 2005/0153107).

36. **With respect to claims 32, 45 and 3,** SCHMITZ et al. discloses a process for the production of a security element (Abstract), including a second film body with a partial magnetic coating (Column 4, lines 44-52) comprising: a second film body forming a transfer film which has a harrier film and a magnetic layer is applied to the first film body with the adhesive layer in-between, having an orientation of the magnetic layer relative to the adhesive layer, irradiation is effected after application of the transfer film to the adhesive layer to cure the adhesive/harden, and the carrier film is removed form the second film body including the first film body (Column 4, lines 15-60).

37. SCHMITZ et al. does not specifically state that the adhesive layer is provided on the first film body and is a cross-linkable type. However, KAULE et al. discloses that the adhesive can either be applied to the first film body or the transfer film (Column 5, lines 15-47). Accordingly, KAULE et al. discloses that placing the adhesive on the first film body or the second film body are obvious variant methods, as such, one having ordinary skill in the art, at the time of the invention, would have considered placing the adhesive on the first film body of SCHMITZ et al.

38. Additionally, KAULE et al. discloses using radiation curable cross-linkable adhesive (Abstract) whereby the bond is irreversible (Column 2, lines 59 -63). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use cross-linkable adhesives to bond the magnetic layer of SCHMITZ et al. as taught by KAULE et al. so as to form an irreversible bond.

39. Therefore, given that SCHMITZ et al. forms the pattern by selective activation of the adhesive, and the adhesive is applied over the entirety of the area to receive the transfer, it follows that the adhesive is irradiated in a pattern different than that of the adhesive.

40. SCHMITZ et al. does not specifically state that the irradiation operation is effected prior to application of the transfer film. However, KAULE et al. discloses that irradiation procedure can be affected either before or after placing the two films together (Column 5, lines 10-55). When irradiation prior to placing the films together, a delayed-curing adhesive is used. Therefore, KAULE et al. teaches the irradiation either before or after placing the magnetic layer against the adhesive layer are obvious variant methods, and as such, one having ordinary skill in the art would have considered irradiation prior to placing the magnetic layer against the adhesive.

41. SCHMITZ et al. does not specifically state that the magnetic layer remains on the first film body in an area where the adhesive layer is not hardened and is removed with the carrier film in a region where the adhesive layer is hardened. However, UCHIYAMA et al. discloses transferring a pattern to a base without swelling in a lower cost manner by hardening parts of the adhesive not opposite to the pattern with ultraviolet rays so that the pattern is attached to the body with the uncured adhesive (Abstract). Therefore, it would have be obvious to one having ordinary skill in the art, at the time of the invention, to attach the magnetic layer of SCHMITZ et al. to the security document with uncured/unhardened adhesive as taught by UCHIYAMA et al. so as to prevent swelling and to reduce the cost of providing a transfer to the security document.

42. Alternatively, IIJIMA discloses that a pattern can be transferred by exposing an adhesive in a desired pattern, whereby the film is transferred by the cured adhesive, or, the adhesive can be cured in a desired pattern first, and then the uncured adhesive stuck to the substrate, cured and transferred (Paragraphs [0023]-[0027], [0032]-[0037]). Accordingly, IIJIMA discloses obvious variant methods for transferring patterns, and as such, one having ordinary skill in the art, at the time of the invention, would have considered curing the adhesive in a pattern, first, to decrease the adhesiveness, and to then transfer the pattern to the substrate.

43. Additionally, IIJIMA discloses suggests that the adhesive strength between the support and the transfer determines is the pattern gets transferred (Paragraph [0038]). Accordingly, one having ordinary skill in the art would appreciate that if the uncured adhesive is tacky enough, the magnetic layer of SCHMITZ et al. could be removed with the uncured adhesive, and irradiated later.

44. **With respect to claim 5,** please refer to the rejection of claim 3. One having ordinary skill in the art, at the time of the invention, would appreciate that the uncured areas would have to be hardened so as to prevent dust and other impurities from sticking thereto, as would have been considered by one having ordinary skill in the art.

45. **With respect to claim 6,** IIJIMA discloses that a mask is used to expose the adhesive (Paragraphs [0033]-[0037], Figure 7).

46. **With respect to claims 39 and 52**, SCHMITZ et al. does not specifically state that the adhesive is exposed through the document. However, KAULE et al. discloses that adhesives can also use blue light-curing reaction adhesives. This method variant is

shown in Fig. 5. Paper web is provided with the blue light-curing reaction adhesive in the printing unit (Column 5, lines 48 through 55). The transfer material and the paper web are brought into contact and irradiated with blue light. The reaction adhesive thereby cures within seconds since the paper is permeable to blue light. The transfer foil can then be removed from the hologram-paper compound in the usual way (Column 5, lines 56 through 60). Accordingly, one having ordinary skill in the art would appreciate that to cure the pattern, it would be done with blue light through the substrate.

47. **With respect to claims 40 and 53,** SCHMITZ et al. does not specifically state that the adhesive force between the magnetic layer and the carrier is higher than the non-hardened adhesive and the magnetic layer. However, SCHMITZ et al. cures the adhesive to transfer the magnetic layer. Therefore, absent any evidence to the contrary, the adhesive force between the non-cured adhesive is implicitly lower than the adhesive force between the carrier and the magnetic layer. Alternatively, the adhesive implicitly has and adhesion force greater in the non-hardened state to the magnetic layer than between the magnetic layer and the carrier.

48. **With respect to claims 41 and 54,** SCHMITZ et al. discloses that the adhesive is a radiation-curable adhesive (Column 4, lines 34 through 38). SCHMITZ et al. does not specifically state that the adhesive is a non-conducting adhesive. However, absent any evidence to the contrary, the adhesive of SCHMITZ et al. is implicitly non-conductive as there is no evidence from SCHMITZ et al. to indicate it is so.

49. **With respect to claims 44 and 57,** SCHMITZ et al. discloses that the transfer film has a release layer between the carrier film and the magnetic layer (Column 4, lines 22 through 40).

50. Claims 42, 43, 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) and UCHIYAMA et al. (JP 63-030843), or in the alternative to UCHIYAMA et al., IIJIMA (US 2005/0153107) as applied to claims 32, 3, 5, 6, 39-41, 44, 45, 52-54 and 57 above, and further in view of HARRIS et al. (WO 99/65699).

51. **With respect to claims 42, 43, 55 and 56**, modified SCHMITZ et al. discloses that the magnetic layer can be provided in the form of characters, patterns or the like (Column 5, lines 15 through 25) and that the security element, containing the magnetic pattern, are secured to the document by a radiation-curable adhesive (Column 4, lines 30 through 38). KAULE et al. discloses that the bank paper is coated locally with a special reaction adhesive in a printing unit. The adhesive can be treated like an ink before activation (Column 5, lines 15 through 20). Modified SCHMITZ et al. does not specifically state that the adhesive can be applied to the document by intaglio or flexographic printing. However, HARRIS et al. discloses a method of providing an optically variable effect generating structure and an image on a substrate (Page 1, lines 1 through 5). Optically variable effect generating structures such as diffraction gratings and holograms are frequently used both for decorative and security purposes. In

particular, such structures are used on security documents such as identification cards, banknotes and the like to enable such substrates to be authenticated (Page 1, lines 6 through 15). The first state in the process involves the depositing of an adhesive. The adhesive must be printable, preferable to form high resolution images. It is possible to use UV cationic curing resins. The quantity of adhesive applied is also important. Too little and incomplete coverable may occur. Too much and the adhesive will pass between the first layer of tin particles and bind additional layers, resulting in unnecessary material usage (Page 4, lines 15 through 35). The adhesive may be printed using conventional printing techniques such as flexography and intaglio printing (Page 5, lines 9 through 15). Therefore, it would have been obvious to use intaglio or flexographic printing to apply the adhesive to the document of modified SCHMITZ et al. as taught by HARRIS et al. so as to provide high resolution images and to prevent unnecessary material usage.

52.

53. Claims 33-35 and 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) and UCHIYAMA et al. (JP 63-030843), or in the alternative to UCHIYAMA et al., IIJIMA (US 2005/0153107) as applied to claims 32, 3, 5, 6, 39-41, 44, 45, 52-54 and 57 above, and further in view of YADAV (US 20040256986).

54. **With respect to claims 33 and 46**, modified SCHMITZ et al. discloses that the magnetic layer can either be printed (e.g. by screen printing) or applied by coating methods (Column 8, lines 33 through 38). Modified SCHMITZ et al. does not specifically state that the magnetic layer is a layer of magnetic particles. However, YADAV discloses that nanopigments provide color and magnetic performance and can be applied to an article of ceramic, adhesive, paper, fiber, ink or polymeric art. Such colored magnetic nanopigments may be used to create superior security documents, bar codes, inventory tracking technologies, theft prevention tolls, quality assurance, and safety products appealing to customers (Paragraph [0152]. The powders are nanoscale (Paragraph [0150]). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use nanoscale magnetic particles for the magnetic layer of SCHMITZ et al. as taught by YADAV so as to provide superior security features for documents of value.

55. **With respect to claims 34 and 47**, modified SCHMITZ et al. discloses that the magnetic layer may be coated by screen printing onto the carrier (Column 8, lines 33 through 38) and implicitly from a solution. YADAV discloses that the magnetic particles are nanoscale. Therefore, one having ordinary skill in the art, at the time of the invention, would appreciate that the coating of SCHMITZ et al. may contain nanoscale magnetic particles as taught by YADAV so as to provide superior security features for documents of value.

56. **With respect to claims 35 and 48**, modified SCHMITZ et al. discloses that the magnetic layer can either be printed (e.g. by screen printing) or applied by coating

methods (Column 8, lines 33 through 38). Modified SCHMITZ et al. does not specifically state that the magnetic layer is applied by sputtering. However, YADAV discloses that the film can be coated by spin coating, dip coating, spray coating, ion beam coating, plasma coating, and sputtering (Paragraph [0120]). Therefore, one having ordinary skill in the art, at the time of the invention, would appreciate coating the carrier with the magnetic layer of SCHMITZ et al. by sputtering so as to apply the magnetic layer entirely over the carrier.

57. Claims 36-38 and 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHMITZ et al. (US 6,491,324) in view of KAULE et al. (US 5,820,971) and UCHIYAMA et al. (JP 63-030843), or in the alternative to UCHIYAMA et al., IIJIMA (US 2005/0153107) as applied to claims 32, 3, 5, 6, 39-41, 44, 45, 52-54 and 57 above, and further in view of POWER et al. (EP 0953937).

58. **With respect to claims 36, 37 and 49 and 50**, modified SCHMITZ et al. discloses that a magnetic layer is printed or coated onto the carrier. Modified SCHMITZ et al. does not specifically state that the magnetic material is an amorphous metal glass. However, POWER et al. discloses a security element comprising a magnetic layer and an embossed layer so as to avoid counterfeiting of value documents (Abstract (Item 57)). The soft-magnetic amorphous metal glass thin film coating may be deposited by sputtering to achieve the desired magnetic properties (Paragraph [0053]). The soft-magnetic layer consists essentially of an alloy containing cobalt, iron, silicon and boron

(Paragraph [0042]). A soft-magnetic material only shows magnetic properties when exposed to a magnetic field while hard-magnetic materials show permanent magnetic properties (Paragraph [0017]). Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to use soft-magnetic materials for the security element of SCHMITZ et al. as taught by POWER et al. so as to provide greater security for documents of value. Additionally, it would have been obvious to one having ordinary skill in the art, at the time of the invention, to sputter the layer of magnetic material of SCHMITZ et al. as taught by POWER et al. so as to provide the desired magnetic properties thereby allowing for tailoring of the security feature and providing for greater security of the document of value.

59. **With respect to claims 38 and 51,** SCHMITZ et al. does not specifically state that the adhesive is irradiated through the carrier. However, SCHMITZ et al. discloses that the carrier is a transparent plastic foil (Column 4, lines 24 through 30) and that the magnetic layer is provided additionally with gaps in the form of characters, patterns or the like and the carrier is translucent or transparent. Furthermore, the adhesive is radiation-curable (Column 4, lines 34 through 38). Therefore, one having ordinary skill in the art, at the time of the invention, would appreciate that the adhesive may be irradiated through the carrier.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX EFTA whose telephone number is (571)270-7604. The examiner can normally be reached on Mon-Thurs 6:00am-4pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Phillip Tucker can be reached on (571)272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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